

Comments on Hybrid Resources Second Revised Straw Proposal

Department of Market Monitoring

May 28, 2020

Summary

DMM appreciates the opportunity to comment on the ISO's *Hybrid Resources Second Revised Straw Proposal*.¹ DMM supports the ISO's efforts to clarify the definition of a hybrid resource and to develop a framework to accommodate these resources in the ISO market.

In the Second Revised Straw Proposal, the ISO acknowledges the potential for hybrid resources to exercise market power. The proposal also states that market power mitigation measures for hybrid resources will not be considered until a later phase of the initiative. DMM encourages the ISO to prioritize the development of market power mitigation procedures for hybrid resources, leveraging the concurrent ESDER 4 stakeholder process as appropriate.

Other elements of the Second Revised Straw Proposal also warrant further consideration. Specifically, the ISO should reconsider the proposal for hybrid resources to use outage cards for economic purposes, the proposal to not require reporting of state-of-charge for the storage component of hybrid resources, and the proposal to price co-located resources at the point of interconnection rather than the resource node.

I. Prioritize market power mitigation for hybrid resources

DMM encourages the ISO to prioritize the development of market power mitigation procedures for hybrid resources.

In the Second Revised Straw Proposal, the ISO states that significant amounts of hybrid resource capacity are expected to come online over the next few years. The ISO acknowledges that some of these resource will be well-positioned to exercise market power and set very high prices significantly in excess of competitive levels.

Despite the ISO's acknowledgement of the projected growth of hybrid resource capacity, and the potential for these resources to exercise market power, the Second Revised Straw Proposal does not include market power mitigation provisions for hybrid resources. The ISO states only that it will likely include market power mitigation in a future version of the hybrid resources initiative.

In the stakeholder presentation dated May 7, 2020, the ISO states that it will retain authority to review generator information and that DMM will monitor for gaming or manipulative

¹ *Hybrid Resources Second Revised Straw Proposal*, California ISO, April 29, 2020;
<http://www.caiso.com/InitiativeDocuments/SecondRevisedStrawProposal-HybridResources.pdf>

behavior.² However, these measures should be viewed as supplements to a robust market power mitigation framework, rather than as a substitute for market power mitigation. Further, it is not clear why it would be appropriate or acceptable to forgo mitigation of hybrid resources when the technologies underlying hybrid resources would each be subject to mitigation if modeled as separate resources.³ This approach may present risk of not gaining regulatory approval, given the different treatment of similar resources.

DMM encourages the ISO to leverage the hybrid resources stakeholder initiative, and the ESDER 4 initiative where appropriate, to develop an understanding of costs faced by common hybrid resource types. This information could inform possible approaches to construct an estimate of short run marginal costs for use in market power mitigation of hybrid resources.

II. ISO needs to require all data necessary to validate dynamic limits

The ISO proposes to allow scheduling coordinators for hybrid resources to reflect real-time operational capability through the submission of a real-time dynamic limit. The dynamic limit presented in the Second Revised Straw Proposal appears analogous to the net-to-grid forecast approach presented in earlier versions of the hybrid resources proposal.

In earlier comments, DMM supported the ISO's proposal to require submission of data by scheduling coordinators to support the submitted net-to-grid forecast.⁴ Specifically, DMM supported the required submission of the hybrid resource renewable generation component forecast and related meteorological data, storage component state-of-charge and charging/discharging status, and the proposal for the ISO to provide the renewable component forecast for a fee.

DMM continues to support the required submission of all of the above listed data. However, in this latest proposal, the ISO appears to have dropped the requirement to monitor the state-of-charge (SOC) and charging/discharging status for the energy storage component of hybrid resources. DMM encourages the ISO to maintain this requirement. Access to this and all other data that inform the dynamic limit is important to ensure the transparency and integrity of values submitted by resource operators.

The ability to monitor self-submitted hybrid resource forecasts is important for monitoring potential strategic forecasting to arbitrage price differences across markets, as well as to ensure that self-submitted forecasts are not otherwise used to strategically withhold capacity.

² *Hybrid Resources Second Revised Straw Proposal – Stakeholder Web Conference*, California ISO, May 7, 2020: <http://www.caiso.com/InitiativeDocuments/Presentation-HybridResources-SecondRevisedStrawProposal-May7-2020.pdf>

³ Although energy storage resources are not currently subject to mitigation, the ISO is proposing in the ESDER 4 stakeholder initiative to apply mitigation to energy storage resources.

⁴ *Hybrid Resources Revised Straw Proposal –Comments by Department of Market Monitoring*, January 14, 2020: <http://www.caiso.com/InitiativeDocuments/DMMComments-HybridResources-RevisedStrawProposal.pdf>

III. Bids should be used in lieu of outage cards to achieve economic objectives

The ISO proposes that outage cards could be used to derate hybrid resources when resource operators wish to use renewable capacity to charge on-site storage. However, the use of outage cards to derate the output capability of the hybrid resource is not appropriate when the resource is not facing a physical output limitation. This is especially true for hybrid resources with RA capacity that will have a 24x7 must-offer obligation under the Second Revised Straw Proposal.

DMM recognizes that hybrid resource operators will seek to optimize operation of storage components over the day, and that part of this optimization will include periods of on-site charging. However, with sufficient renewable generation capacity, the desire to conduct on-site charging at a given time to achieve economic objectives is not a physical limitation. The resource remains physically capable of forgoing on-site charging and instead generating output for the grid.

As with other storage resources, economic objectives stemming from expected optimal operation over a period of time can be effectively managed through energy bidding patterns. At some price, the choice to forgo on-site charging becomes the profit maximizing operation for the resource. Energy bids that reflect the expected opportunity cost of forgone on-site charging can result in more efficient market outcomes while also serving to benefit hybrid resource operators.

IV. Consider reflecting congestion cost from point of interconnection constraint in co-located resource pricing

The ISO is proposing a point of interconnection (POI) constraint for co-located resources. As DMM understands, this constraint is intended to ensure that the collective output of resources that are co-located behind the same point of interconnection does not exceed the level of interconnection rights. The ISO proposes to price co-located resources at the node of the POI, rather than at the nodes of each resource whose flows are subject to the proposed POI constraint.

Pricing co-located resources at the POI node has the impact of a co-located resource settlement price that does not reflect the shadow price of the POI constraint when binding. Because this proposed settlement price may exceed the marginal cost of production for available co-located resource capacity that has not been dispatched by the market, the operator of a co-located resource may be incentivized to deviate from market dispatch instructions. This can lead to a total output from co-located resources that exceeds the level of interconnection rights.

DMM discussed this outcome at length in earlier comments.⁵ The ISO has since acknowledged this potential issue in the Second Revised Straw Proposal, but continues to propose that the congestion impacts of the POI constraint will not be reflected in the settlement price of the co-located resources. Instead, the ISO has proposed a number of non-economic measures to monitor and enforce flows over the POI.

DMM questions why the ISO would choose to omit POI constraint congestion impacts from the settlement price of co-located resources. Exposing co-located resources to the congestion cost of the POI constraint can ensure incentives that are aligned with market dispatches, while respecting the limits of the POI and negating the need to rely on other non-economic means of congestion management.

⁵ *Hybrid Resources Revised Straw Proposal –Comments by Department of Market Monitoring*, January 14, 2020: <http://www.caiso.com/InitiativeDocuments/DMMComments-HybridResources-RevisedStrawProposal.pdf>